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managed by Brookhaven Science Associates
for the U.S. Department of Energy

Mr. Brian Jankauskas
New York State Dept. of Environmental Conservation
Division of Environmental Remediation
625 Broadway – 12th Floor
New York, New York 12233-7051

August 3, 2021

Ms. Sharon Hartzell
Federal Facilities Section
U.S. EPA – Region II
290 Broadway – 18th Floor
New York, New York 10007-1866

Dear Mr. Jankauskas and Ms. Hartzell:

**SUBJECT: BROOKHAVEN NATIONAL LABORATORY (BNL) INTERAGENCY
AGREEMENT (IAG) – MONTHLY REPORT FOR JULY 2021**

In accordance with the Interagency Agreement (IAG) for Brookhaven National Laboratory (BNL), enclosed is the Monthly Report for July 2021 covering the Long-term Stewardship (LTS) areas listed below:

- Brookhaven Graphite Research Reactor (BGRR) Surveillance and Maintenance
- High Flux Beam Reactor (HFBR), including the Waste Loading Area (WLA) Surveillance and Maintenance
- Soil and Water Remediation

If you have any questions, please call Gerald Granzen at (631) 344-4089.

Sincerely,

A handwritten signature in black ink, appearing to read "W. Dorsch", with a stylized flourish at the end.

William Dorsch, Manager
Groundwater Protection Group

Enclosure, as stated:

cc: w/encl.

P. Armani, NYSDEC
C. Costello, NYSDOH
D. O'Hehir, NYSDOH
S. Rushford, NYSDOH
A. Rapijko, SCDHS
J. Wanlass, SCDHS
M. Soucie, NYSDOH
D. Pocze, EPA

J. Carter, BHSO
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J. Remien, BSA
S. Coleman, BSA
R. Howe, BSA
D. Paquette, BSA
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File: GWER 17.1.21

**Brookhaven National Laboratory
Interagency Agreement (IAG) Monthly Report
July 2021
Long Term Stewardship (LTS) Activities**

**BROOKHAVEN GRAPHITE RESEARCH REACTOR (BGRR) SURVEILLANCE AND
MAINTENANCE**

Current Month Technical Performance Analysis

Accomplishments and/or Technical Achievements

- Conducted routine surveillance and maintenance (S&M) activities.
- The recently replaced leak detection sensor in the south duct was calibrated and is now fully operational.
- The quarterly inspection of the high bay and former offices was performed 7/28/21. There were no significant issues identified.

Highlights of any changes to objectives and description of any changes in technical approach

- None.

Key Issues

- None.

Planned Actions for the Next 90 Days

- Continue S&M activities.

**HIGH FLUX BEAM REACTOR (HFBR) INCLUDING, STACK, GROUNDS, AND WASTE
LOADING AREA (WLA) SURVEILLANCE AND MAINTENANCE**

Current Month Technical Performance Analysis

Accomplishments and/or Technical Achievements

- BSA and BHSO participated in the weekly stack demolition coordination teleconferences with the Army Corps of Engineers (USACE) and DOE's Office of Environmental Management (EM).
- The USACE and contractor briefed the regulators on the status of the stack demolition during the 7/8/21 IAG monthly teleconference.
- Contractor performing remaining soil excavation adjacent to the pedestal and flushing and grouting of pedestal drain lines.
- Community Air Monitoring Plan (CAMP) air monitoring data was distributed to the regulators weekly.

- Quarterly inspection of the confinement dome was performed 7/29/21. All five leak detection devices were tested and found to be working properly. No significant issues were identified.

Highlights of any changes to objectives and description of any changes in technical approach

- Contractor completed pedestal decontamination/concrete removal using diamond wire cutting saws. The entire pedestal has been cut to 12 inches deep. In addition, a portion of the west side of the pedestal was completely removed to eight feet in depth. Preliminary radiological surveys indicate the cleanup criteria were met.

Key Issues

- Received EPA approval of the stack demolition Closeout Report extension request 7/14/21.
- Continue to perform the remaining demolition work safely.

Planned Actions for the Next 90 Days

- Continue S&M activities.
- Contractor to perform a final status survey (walkover survey and soil sampling) and Oak Ridge Institute for Science and Education (ORISE) conduct independent verification surveys of the former silencer and pedestal areas early August. The surveys will be performed concurrently due to the limited accessibility to the former silencer area soil excavation.
- The fourth and final rail waste shipment is anticipated for late August.

SOIL AND WATER REMEDIATION

Current Month Technical Performance Analysis

Accomplishments and/or Technical Achievements:

- The IAG monthly teleconference was held 7/8/21 and included updates on HFBR stack and Building 650 demolition, and PFAS time critical removal action (TCRA)/additional groundwater characterization.
- Briefed the regulators on the highlights of the 2020 Groundwater Status Report and the recommendations of the Five-Year Review Report 7/26/21.
- BHSO submitted responses to EPA and SCDHS comments on the 2020 Environmental Monitoring Report, Current and Former Landfill Areas to the regulators 7/14/21.
- Work continued on the PFAS TCRA planned remediation including:
 - Procurement and Property Management (PPM) Division awarded the contract for construction of the PFAS Source Area Groundwater Remediation Systems. The contractor is providing post-award submittals.
 - Submitted responses to NYSDEC/NYSDOH comments on the PFAS Source Area Remediation Design Report 7/7/21.
 - The western edge of the shallow PFAS plume along West Princeton Avenue was defined with a temporary well. PFOS and PFOA were detected up to 1,750 ng/L and 144 ng/L respectively, in several temporary wells installed 800 feet north of West Princeton Avenue.

- The Groundwater Protection Group (GPG) secured additional FY21 lab overhead funding in order to install additional permanent wells in the southwestern portion of the site that will enhance groundwater flow mapping and groundwater modeling efforts.
- Preparations are underway to begin monitoring well installations for the PFAS TCRA treatment systems.
- Coordinating with BSA riggers to have the carbon vessels installed in Building 492 for the planned Current Firehouse PFAS groundwater treatment system.
- Began installation of vertical profile (VP) wells at the Middle Road plume as recommended in the Five-Year Review.
- Performed a carbon change-out at the Airport Groundwater Treatment System 7/27/21.
- The walkover survey of the Building 650 Project survey unit and area adjacent to and north of the Building 650 project survey unit indicate that the radiological levels are at or below levels that have historically met Operable Unit (OU) I cleanup goals.
- Completed semi-annual Land Use and Institutional Controls inspections.

Highlights of any changes to objectives and description of any changes in technical approach

- None.

Key Issues

- The Laboratory continued COVID-Phase 2 operations. The Groundwater Protection Group (GPG) maintained minimal staff working on-site to manage field activities. All other GPG staff continue to work remotely.
- Temporary wells are being installed up and downgradient of West Princeton Avenue to better define the shallow elevated PFAS contamination in this area. Data from two Geoprobe wells upgradient of West Princeton Avenue and west of potable supply well BNL-6 indicates that elevated PFOS concentrations are present within 20 feet of the water table. The source of the PFAS has not been determined at this time.
- Installed and sampled the two planned VPs and three new monitoring wells at the OU VI ethylene dibromide (EDB) plume. This work was recommended in the Five-Year Review.
- BSA met with AVR representatives on 7/26/21 to conduct a walkover of BNL infrastructure located on a parcel of land adjacent to the Industrial Park groundwater treatment system. The purpose of the meeting was for AVR to gain a better understanding of BNLs access needs.

Planned Actions for the Next 90 Days

- The Laboratory and GPG will continue COVID-Phase 2 operations.
- The monthly IAG teleconference is scheduled for 8/5/21 and will include updates on HFBR stack and Building 650 demolition and groundwater update.
- Contractor expected to begin work on installing the PFAS Source Area Groundwater Remediation Systems extraction wells in August.
- Begin installation of the 83 monitoring wells associated with the PFAS Source Area Groundwater Remediation Systems in August.
- Install the carbon vessels in Building 492 for the planned Current Firehouse PFAS groundwater treatment system.

- Prepare revision of the TCRA PFAS Characterization Report to incorporate data from additional temporary wells installed along Princeton Avenue and editorial comments received from NYSDEC/NYSDOH 6/7/21.
- Install additional Geoprobe wells south of West Princeton Avenue to characterize the PFAS plume near the BNL apartment complex. Additional Geoprobe wells may be installed north of West Princeton as time and funding permits.
- Continue to install VP wells for the Middle Road and South Boundary plumes, as recommended in the Five-Year Review.
- A carbon change-out at the OU VI EDB Groundwater Treatment System is scheduled for 8/3/21.
- Prepare and submit Closeout Report for Building 650 demolition to the regulators.
- The BNL Water and Sanitary Planning Team is schedule to meet 8/11/21.